

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A vaccine useful in ~~preventing and treating diseases~~ caused by ~~a pathogen capable of infecting, or avoiding destruction by, macrophages~~ *Propionibacterium acnes*, said vaccine comprising at least one vector that comprises at least one nucleotide sequence encoding ~~at least one antigen~~ a lipase or fragment thereof derived from said ~~pathogen~~ *Propionibacterium acnes*, and wherein said ~~antigen~~ lipase or fragment thereof is capable of generating an immune response in a recipient thereof; ~~wherein the vaccine comprises a genetic vaccine utilizing a recombinant vector or modified polypeptides, the vaccine further comprising antigens that do not cause a destructive form of acne.~~

Claims 2, 3 (canceled)

Claim 4 (original): The vaccine of claim 1, wherein said vector comprises naked DNA, a recombinant viral vector, or a combination of both.

Claim 5 (currently amended): The vaccine of claim [[4]]1, wherein said ~~recombinant viral~~ vector is selected from the group consisting of adenovirus, adeno-associated virus, herpes virus, vaccinia and RNA viruses.

Claim 6 (currently amended): The vaccine of claim 5, wherein said ~~recombinant viral~~ vector is an adenovirus.

Claim 7 (original): The vaccine of claim 1, wherein said vector further comprises a nucleotide sequence encoding an adjuvant.

Claim 8 (original): The vaccine of claim 7, wherein said adjuvant is a cytokine.

Claim 9 (original): The vaccine of claim 8, wherein said cytokine is IL-2, IL-12, or both.

Claim 10 (currently amended): The vaccine of claim 1, wherein said ~~antigen is a nucleotide sequence encodes said lipase gene or fragments thereof, a hyaluronidase gene or fragments thereof, a phosphatase gene or fragments thereof, or combinations of the foregoing.~~

Claim 11 (currently amended): A method of treating or ~~preventing~~ a disease caused by a ~~pathogen capable of infecting, or avoiding destruction by, macrophages~~ *Propionibacterium acnes*, said method comprising obtaining a vaccine comprising at

least one vector that comprises at least one nucleotide sequence encoding ~~at least one antigen~~ a lipase or fragment thereof derived from said ~~pathogen~~ *Propionibacterium acnes*; and administering said vaccine to a recipient in need thereof; ~~wherein the vaccine comprises a genetic vaccine utilizing a recombinant vector or modified polypeptides, the vaccine further comprising antigens that do not cause a destructive form of acne.~~

Claim 12 (currently amended): The method of claim 11, wherein said administering comprises routes of administration comprising oral, intravenous, intramuscular, transcutaneous, subcutaneous, aerosol, ocular, rectal, intraperitoneal, intrathecal, or combinations thereof.

Claim 13 (original): The method of claim 12, wherein administering comprises transcutaneous administration.

Claim 14 (original): The method of claim 13, wherein said transcutaneous administration comprises applying said at least one vector to a patch, and adhering said patch to skin of said recipient.

Claims 15, 16 (canceled)

Claim 17 (original): The method of claim 11, wherein said at least one vector comprises naked DNA, a recombinant viral vector, or a combination of both.

Claim 18 (currently amended): The method of claim 1711, wherein said ~~recombinant viral~~ vector is an adenovirus.

Claim 19 (currently amended): A kit comprising a container and one or more patches, wherein said patches have disposed thereon at least one vector comprising a nucleotide sequence encoding ~~an antigen~~ a lipase or fragment thereof derived from a pathogen *Propionibacterium acnes*, said pathogen being capable of infecting, or avoiding destruction by, macrophages.

Claim 20 (canceled)

Claim 21 (original): The vaccine of claim 1, wherein said vaccine is in the form of an aqueous solution.

Claim 22 (original): The vaccine of claim 1, wherein said vaccine further comprises a nucleotide sequence encoding a co-stimulatory molecule.

Claim 23 (original): The vaccine of claim 22, wherein said co-stimulatory molecule comprises a B7 protein, a CD40 protein, or both.

Claim 24 (currently amended): A method of cosmetically improving the appearance of a person's skin who is suffering from acne vulgaris, said method comprising the steps of obtaining a composition comprising a mixture of at least one vector that comprises at

least one nucleotide sequence encoding ~~at least one antigen~~ a lipase or fragment thereof derived from *P. acnes*, and a cosmetic agent; and administering said composition to said person; ~~wherein the composition comprises a genetic vaccine utilizing a recombinant vector or modified polypeptides, the vaccine further comprising antigens that do not cause a destructive form of acne.~~

Claim 25: (new) A composition comprising an adenovirus vector that comprises a nucleotide sequence encoding a lipase derived from *Propionibacterium acnes*.